

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

--Claim 1. (Currently Amended) A method for producing non grain-oriented magnetic steel sheet comprising:
producing in which a hot strip is produced from an input stock such as in form of cast slabs, strip, roughed strip, or thin slabs, said input stock being made of steel comprising [[()]] in weight %[[()]]:

C: 0.001 - 0.05%

Si: $\leq 1.5\%$

Al: $\leq 0.4\%$

with Si + 2 Al $\leq 1.7\%$

if necessary optionally up to a total of 1.5 % alloying additions such as selected from the group consisting of P, Sn, Sb, Zr, V, Ti, N, Ni, Co, Nb and/or B; with the remainder being balance iron and inevitable impurities as well as the usual accompanying elements, in that wherein the input stock is hot rolled to form a hot strip directly from the casting heat or after preceding reheating to a reheating temperature between minimum 1000 $^{\circ}\text{C}$ and maximum 1180 $^{\circ}\text{C}$ in several deformation passes ; and

subsequently coiled coiling said hot strip in a coil at a coiling temperature; wherein at least the first deformation pass during the hot-rolling step is carried out takes place in the a austenitic region, and at least one further deformation pass takes place is carried out in a the two

phase ~~mixing region~~ austenite/ferrite region, and wherein a total deformation ϵ_h of at least 35 % is achieved during the hot-rolling step in the two phase austenite/ferrite mixing region.

Claim 2. (Currently Amended) The method according to of claim 1, characterised in that wherein the total deformation ϵ_h is 60 % maximum.

Claim 3. (Currently Amended) The method according of claim 1, characterised in that further comprising finish rolling the hot strip exclusively in the two phase ~~mixing region~~ austenite/ferrite region after deformation in the austenitic region.

Claim 4. (Currently Amended), The method according to of claim 1, characterised in that wherein the total deformation ϵ_h achieved during the hot-rolling step in the two-phase ~~mixing region~~ austenite/ferrite region is at least 50%.

Claim 5. (Currently Amended) The method according to of claim 1, characterised in that wherein following the hot-rolling step in the two-phase ~~mixing region~~ austenite/ferrite region, at least one deformation pass is carried out in the a ferritic region.

Claim 6. (Currently Amended) The method according to of claim 5, characterised in that wherein the a total deformation ϵ_h achieved during hot-rolling in the ferritic region is at least 10 % and at most 33 %.

Claim 7. (Currently Amended) The method according to of claim 1, characterized
~~in that wherein~~ the cooling temperature is at least 700 °C.

Claim 8. (Currently Amended) The method according to of claim 7, characterised
~~in that further comprising~~ subjecting the coiled hot strip from the a coiling heat is subjected to
direct annealing ~~and that wherein~~ the annealing time at an annealing temperature exceeding 700
°C is at least 15 minutes.

Claim 9. (Currently Amended) The method according to of claim 6, characterised
~~in that wherein~~ the steel has comprises an a Si content of at least 0.7 weight %.

Claim 10. (Currently Amended) The method according to of claim 1, characterized
~~in that wherein~~ the cooling temperature is less than 600 °C,~~in particular less than 550 °C~~.

Claim 11. (Currently Amended) The method according to of claim 9, characterized
~~in that further comprising~~ immediately following coiling, ~~subjecting~~ the hot strip is subjected to
accelerated cooling in the coil.

Claim 12. (Currently Amended) The method according to of claim 1, characterized in that wherein during the hot-rolling step in the ~~ferric~~ ferritic region, at least one deformation pass is carried out with the use of lubricant.

Claim 13. (Currently Amended) The method according to of claim 12, characterised in that wherein all deformation passes taking place in the ferritic region are carried out with roll lubrication.

Claim 14. (Currently Amended) The method according to of claim 1, characterized in that after cooling further comprising annealing the hot strip after the coiling step is annealed at an annealing temperature of at least 740 °C

Claim 15. (Currently Amended) The method according to of claim 14, characterised in that further comprising annealing the coiled hot strip is carried out in a batch-type annealing furnace.

Claim 16. (Currently Amended) The method according to of claim 14, characterized in that wherein the annealing step is carried out in a continuous furnace.

Claim 17. (Currently Amended) The method according to of claim 1, characterized in that wherein the thickness of the coiled hot coil strip is ≤ 1.5 mm.

Claim 18. (Currently Amended) The method according to of claim 1, characterized in that further comprising preparing the hot strip is prepared for further processing and supplied supplying said processed hot strip as magnetic steel sheets.

Claim 19. (Currently Amended) The method according to of claim 18, characterised in that prior to preparation for processing and delivery further comprising planishing the hot strip is planished at a degree of deformation of $\leq 3\%$ prior preparation for the processing and the supplying steps.

Claim 20. (Currently Amended) The method according to of claim 18, characterised in that prior to preparation for processing and delivery, further comprising temper rolling the hot strip at a degree of deformation of $> 3 - 15\%$ prior the preparation for the processing and the supplying steps.

Claim 21. (Currently Amended) The method according to of claim 18, characterized in that prior to preparation for processing and delivery, further comprising subjecting the hot strip is subjected to final annealing, at an annealing temperature of $> 740\text{ }^{\circ}\text{C}$ prior the preparation for the processing and the supplying steps.

Claim 22. (Currently Amended) The method according to of claim 18, characterized in that further comprising prior to preparation for processing and delivery subjecting the hot strip undergoes to recrystallising annealing at annealing temperatures > 650 °C to form a magnetic steel strip which has not been subjected to final annealing.

Claim 23. (Currently Amended) The method according to of claim 16 1, characterized in that further comprising cold rolling the hot strip is cold rolled in single-stage or multi-stage rolling, to a final thickness.

Claim 24. (Currently Amended) The method according to of claim 23, characterized in that further comprising cold rolling is carried out the hot strip in several stages and that wherein at least one of the cold-rolling stages is followed by intermediate annealing.

Claim 25. (Currently Amended) The method according to of claim 23, characterized in that following cold rolling, further comprising subjecting the cold strip is subjected to final annealing following cold rolling, said final annealing taking place at an annealing temperature of > 740 °C.

Claim 26. (Currently Amended) The method according to of claim 23, characterized in that wherein following the cold-rolling step, the cold strip is subjected to recrystallising annealing in a batch-type annealing furnace or in a continuous furnace at annealing temperature

of at least 650 °C to form a magnetic steel strip which has not been subjected to final annealing, ;
~~with the said cold strip being~~ subsequently ~~being~~ leveled and rerolled.

Claim 27. (Currently Amended) The method according to of claim 26 21,
~~characterized in that wherein the annealing step~~ is carried out in a decarburising atmosphere.

Claim 28. (New) The method of claim 1, wherein the steel comprises up to a total of
1.5% of alloying additions selected from the group consisting of P, Sn, Sb, Zr, V, Ti, N, Ni, Co,
Nb or B.

Claim 29. (New) The method of claim 1, wherein the cooling temperature is less than
550 °C.

Claim 30. (New) The method of claim 8 further comprising cold rolling the hot strip
in single-stage or multi-stage rolling, to a final thickness.

Claim 31. (New) The method of claim 30, further comprising cold rolling the hot
strip in several stages wherein at least one of the cold-rolling stages is followed by intermediate
annealing.

Claim 32. (New) The method of claim 30, further comprising subjecting the cold strip to final annealing following cold rolling, said final annealing taking place at an annealing temperature of > 740 °C.

Claim 33. (New) The method of claim 30, wherein following the cold-rolling step the cold strip is subjected to recrystallising annealing in a batch-type annealing furnace or in a continuous furnace at annealing temperature of at least 650 °C to form a magnetic steel strip which has not been subjected to final annealing, said cold strip being subsequently leveled and rerolled.

Claim 34. (New) The method of claim 33 wherein the annealing step is carried out in a decarburising atmosphere.

Claim 35. (New) The method of claim 11 further comprising cold rolling the hot strip in single-stage or multi-stage rolling, to a final thickness.

Claim 36. (New) The method of claim 35, further comprising cold rolling-the hot strip in several stages wherein at least one of the cold-rolling stages is followed by intermediate annealing.

Claim 37. (New) The method of claim 35, further comprising subjecting the cold strip to final annealing following cold rolling, said final annealing taking place at an annealing temperature of > 740 °C.

Claim 38 (New). The method of claim 35, wherein following the cold-rolling step the cold strip is subjected to recrystallising annealing in a batch-type annealing furnace or in a continuous furnace at annealing temperature of at least 650 °C to form a magnetic steel strip which has not been subjected to final annealing, said cold strip being subsequently leveled and rerolled.

Claim 39. (New) The method-of claim 35 wherein the annealing step is carried out in a decarburising atmosphere.

Claim 40. (New) The method of claim 14 further comprising cold rolling the hot strip in single-stage or multi-stage rolling, to a final thickness.

Claim 41. (New) The method of claim 40, further comprising cold rolling-the hot strip in several stages wherein at least one of the cold-rolling stages is followed by intermediate annealing.

Claim 42. (New) The method of claim 40, further comprising subjecting the cold strip to final annealing following cold rolling, said final annealing taking place at an annealing temperature of > 740 °C.

Claim 43 (New). The method of claim 40, wherein following the cold-rolling step the cold strip is subjected to recrystallising annealing in a batch-type annealing furnace or in a continuous furnace at annealing temperature of at least 650 °C to form a magnetic steel strip which has not been subjected to final annealing, said cold strip being subsequently leveled and rerolled.

Claim 44. (New) The method-of claim 40 wherein the annealing step is carried out in a decarburising atmosphere.